Xetec

Graphix AT+™

A Printer Interface
for the ATARI® Computer
with NLQ

INSTRUCTION MANUAL

Graphix AT+™ Owner's Manual

871123

All specifications subject to change without notice.

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LIMITED LIFETIME WARRANTY

Xetec warrants that the Graphix AT + is free from defects in material and workmanship assuming normal use. If a defect occurs, send your interface to Xetec along with a dated proof of purchase and a letter of explanation where it will be repaired or replaced (at technicians discretion) free of charge.

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INTRODUCTION

The Xetec *Graphix AT+* is an interface that allows a variety of printers to be attached to an Atari computer. This manual will help you get your new interface attached and working properly. Then all you have to do is set a few switches and you are ready to print. The rest of the manual will then be devoted to showing you how to print from your own program and to use the advanced features of your interface and printer.

INSTALLATION

The *Graphix AT+* is simple to hook up. With all the devices shut off, take the cable coming out of the interface and plug it into the open peripheral socket on your system (at the back of the computer or disk drive). Next, take the interface box itself and plug it into the parallel input connector on your printer (usually on the back near the bottom). Note that your printer must have a Centronics type parallel connector in order to work with the *Graphix AT.*

NOTE: If your interface does not fit tightly in your printer's connector or will not stay in, you will need to use the clips on both sides of the connector to hold the interface in place. In some cases you may need to trim the sides of the interface case so that the clips will fit.

The *Graphix AT+* draws its power from your Atari computer. There is a way to change it so that it gets its power from your printer (this is necessary when using the Atari 1200 computer). See Appendix A on page 6 for details.

SETTING THE SWITCHES

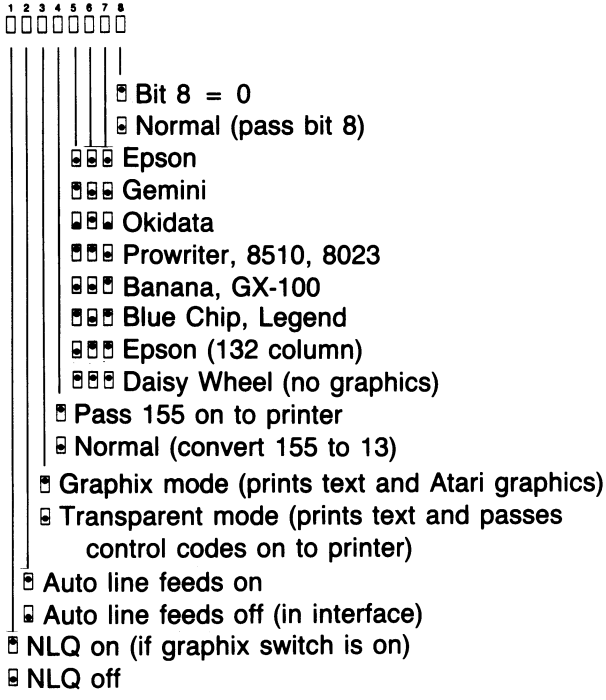
Your interface has many features and options, so eight dip switches have been included to let you make your choices. These switches are important because if they are not set correctly, your interface may do things you are not expecting.

Throughout this manual, you will be instructed to set your interface switches in certain ways to get different features. Instead of just saying 'turn switch 4 on', a diagram like the one below will be drawn to help make it clearer.

Note: Always push the end of the switch marked with the black dot. Any of the switches left blank do not apply in that example and should be left alone.

Here's a brief summary of the switch functions. Following is a detailed description of each:

DIP SWITCH FUNCTIONS



THE PRINTER SELECTION SWITCHES (5-7)

Let's set these three switches first because once you get them right, you won't need to worry about them again. Basically, the purpose of these switches is to let your interface know a little bit about the printer attached to it. **This is vital when you try to print Atari graphics symbols or NLQ (near letter quality).** If the text prints fine but the graphics characters do not, you probably have these switches set incorrectly.

Find your printer in the following list and set switches 5-7 as shown. If your printer is not listed, try the 'Epson' setting first since it is the most popular. If that doesn't work, try all the other settings listed.

Printer	Switches (1 2 3 4 5 6 7 8)
Axiom GX-100	□□□□■■■□
Banana	□□□□■■■□
Blue Chip	□□□□■■■□ +
BMC 80	□□□□■■■□ +
C-Itoh 8510	□□□□■■■□ +
Daisy Wheel printer (all)	□□□□■■■□
Delta 10, 15	□□□□■■■□ +
Epson (80 column)	□□□□■■■□ +
Epson (132 column)	□□□□■■■□ +
Gemini 10x, 15x	□□□□■■■□ +
Legend	□□□□■■■□ +
NEC 8023	□□□□■■■□ +
Mannsmann Tally	□□□□■■■□ +
Okidata 82, 83 with Okigraph ROMs	□□□□■■■□
Okidata 84, 92, 93	□□□□■■■□
Panasonic KX-P1080, 1080i, 1091, 1091i, 1092, 1092i	□□□□■■■□ +
Prowriter	□□□□■■■□ +
Riteman	□□□□■■■□ +
Star SG-10	□□□□■■■□ +

GRAPHIX/TRANSPARENT SWITCH (#3)

Switch number 3 selects how ASCII codes less than 32 and greater than 127 are printed. If the switch is on, these codes will be printed as the Atari graphics characters (just like they look on the screen). If switch 3 is off, these codes will go right to the printer.

AUTO LINE FEED SWITCH (#2)

In order to print lines of text properly, auto line feeds must be turned on in the printer or with switch number 2. Otherwise, every line will be printed on top of the others. If you turn on auto line feeds in *both* your printer and your interface, your lines will be printed doubled-spaced. If this switch is on, auto line feeds are turned on. Consult your printer's manual about turning its auto line feeds on or off.

NLQ SWITCH (#1)

If this switch is turned on, text will be printed in Near Letter Quality (NLQ). This is a slower but higher-quality method of printing. Notice that if the interface is transparent (switch #3 off), you cannot use NLQ. Also note: Only certain printers are capable of this printing (those with a ' + ' next to the switch settings in the table on page 3).

END OF LINE CONVERSION (#4)

This switch in most cases should be left off. In the off position, Atari's end-of-line character (155) is changed to the code used by your printer (13). Turning this switch on will cause code 155 to be sent unchanged to the printer. Unless you have a reason, *leave this switch off.*

7 OR 8 BIT ASCII (#8)

Switch number 8 should normally be left off. If you turn it on, bit 8 of the data coming from your computer will be set to 0. This might be necessary with some old software which sends text with the 8th bit set. If your text is printed in italics or other strange characters, you may need to turn this switch on. Note that doing so will make it impossible to print reverse graphics or text (white on black).

USING PACKAGED SOFTWARE

To use your *Graphix AT+* interface with most software, flip switches 1, 2, 3, 4, & 8 to the off position on the interface. You may need to turn switch 2 on if each line is printed on the same line. Also, if the program sends any Atari graphics symbols, switch 3 should be turned on. This should be all you need to know to get your software to print correctly.

PRINTING FROM YOUR OWN PROGRAMS

The following is a brief introduction to the BASIC commands used to output to a printer and a few examples to get you started.

The simplest way to print something is to use the **LPRINT** command. It works just like the PRINT command except instead of going to the screen, the output goes to the printer.

LPRINT "This is the Graphix AT+"

Make sure switch 3 is on and try this:

LPRINT "Text and Graphics • ♥"
(Push Control T to get • and Control , to get ♥)

Another way to print is to open a channel to the printer. This involves first opening the channel, printing to it, and then closing it when you are done:

```
10 OPEN#1, 8, 0, "P:"
20 PRINT#1; 'The sum of 3 and 5 is";
30 PRINT#1;3 + 5
40 CLOSE#1
```

To list a BASIC program to your printer just type:

```
LIST "P:"
```

SPECIAL CODES

When your interface is in the Graphix mode (switch 3 on), you have nine commands which you can send to the interface to control how it behaves. Notice that in the transparent mode these commands do not work.

COMMAND	FUNCTION
ESC 6	Print 6 lines per inch
ESC 8	Print 8 lines per inch
ESC T	Switch into the transparent mode
ESC G	Switch back into the Graphix mode
ESC 14 (Control N)	Turn on expanded print
ESC 20 (Control T)	Turn on compressed print
ESC 15 (Control O)	Turn off expanded and compressed modes
ESC–0	Turn off underlining (NLQ only)
ESC–1	Turn on underlining (NLQ only)

For example, to print the Compressed mode, try:

LPRINT "The ESC • compressed ESC ■ mode"
(To get ESC, push the ESC key twice; ■ is Control O)

NOTE: The 6, 8, N, T, and O commands may not work on all printers. The ESC T command may be used to temporarily switch to a transparent mode so you can send commands to your printer without having them printed as Atari graphics characters. Send ESC G to then switch back into the normal graphix mode.

For example, to send code 20 directly to your printer:

PRINT#1;" ESC T";CHR$(20);" ESC G"

APPENDIX A

Modification for the Atari 1200XL

The following changes are necessary if you want your interface to draw its power from the printer. Your printer must supply 5 volts at 50 mA on pin 18 of its connector in order for this modification to work. If your printer does not supply that voltage, contact Xetec's service department about possible other modifications. Since soldering is required, we recommend that only experienced persons attempt this change.

1. Pry the two halves of the interface case apart and set them aside.

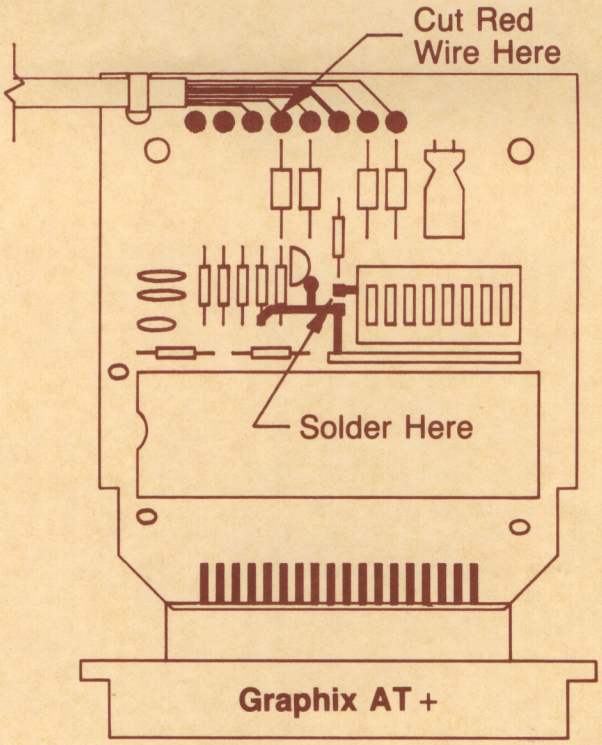
Refer to the drawing for steps 2-4.

2. Hold the board with the parts on top and the black connector towards you.

3. Locate the red wire and carefully cut it at the point shown in the drawing and cover the end of the red wire with electrical tape.

4. Bridge with solder between the two square pads marked 'solder here" in the drawing.

5. Re-assemble the case around the board (making sure you can still see the dip switches).



APPENDIX B

Printer connect pinout

PIN #	Signal
1	Strobe
2	Data bit 1
3	Data bit 2
4	Data bit 3
5	Data bit 4
6	Data bit 5
7	Data bit 6
8	Data bit 7
9	Data bit 8
11	Busy
16	Ground
18	+5 volts (optional)
19-30	Ground
31	Input Prime

DIP SWITCH FUNCTIONS